

I Claim:

1. A composition for improving gastrointestinal tract health comprising:

- (a) a probiotic microorganism; and
- (b) mannanoligosaccharide

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2. The composition of claim 1, wherein the probiotic microorganism is the lactic acid producing bacteria *Lactobacillus acidophilus*.

3. The composition of claim 1, wherein the probiotic microorganism is selected from the group consisting of *Lactobacillus acidophilus*, *L.bulgaricus*, *L.breve*, *L.casei*, *L.helveticu*, *L.rhamnosus*, *Bifidobacterium bifidum*, *B.infantis*, *B.longum*, *B.adolencensis*, *Streptococcus lactis*, *S.thermophilus*, *Lactococcus diacetylactis*, *Pediococcus acidilactici*, and *Saccharomyces boulardii*.

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4. The composition of claim 3, wherein the composition contains at least about 10,000 CFU of probiotic microorganisms.

5. The composition of claim 3, wherein the composition contains between about 1 million to about 100 billion CFU of probiotic microorganisms.

6. The composition of claim 5, wherein the composition contains between about 50 mg to about 10 g mannanoligosaccharide.

7. The composition of claim 1, further comprising fructooligosaccharide.

8. The composition of claim 7, wherein the composition contains between about 20 mg to about 25 g fructooligosaccharide.

9. The composition of claim 6, further comprising at least one formulation aid selected from the group consisting of diluents, stabilizers, binders, buffers, lubricants, coating agents, preservatives, emulsifiers and suspension agents.

10. The composition of claim 8, further comprising at least one formulation aid selected from the group consisting of diluents, stabilizers, binders, buffers, lubricants, coating agents, preservatives, emulsifiers and suspension agents.

11. A method for improving gastrointestinal tract health in humans comprising administering to the human probiotic microorganisms and mannanoligosaccharide effective to provide beneficial effects to GI tract health.

12. The method of claim 11, wherein the probiotic microorganisms and mannanoligosaccharide are administered to achieve a daily intake of between

about 10^4 to about 10^{14} CFU of probiotic microorganisms per day, and between about 50 mg and about 10 g MOS per day.

13. The method of claim 11, wherein the probiotic microorganisms and mannanoligosaccharide are administered to achieve a daily intake of between about 10^6 to 10^{12} CFU of probiotic microorganisms, and between about 50 mg to about 2 g of MOS.

14. The method of claim 11, further comprising administering to the human fructooligosaccharide.

15. The method of claim 12, further comprising administering fructooligosaccharide to achieve a daily intake of between about 20 mg to about 25 g.

16. The method of claim 13, further comprising administering fructooligosaccharide to achieve a daily intake of between about 100 mg to about 10 g.